

TITLE OF THE INVENTION

MODULAR MULTIPLE DOLLY MOVING SYSTEM

BACKGROUND OF THE INVENTION

This invention relates to plastic and metal dollies with modular
5 handle and connector attachments.

The state of the art in constructing dollies for moving large
items revolves around plastic, metal, and wood components, rolling
caster wheels, and handles for controlling the dolly. Kern et al. In
US Patent 5,921,566 teaches a one-piece plastic framed dolly that is
10 inexpensive to manufacture and light-weight. Rehrig in US Pat.
4,720,115 teaches a plastic dolly with separately cast components
bound together with lap joints. These are standard dolly systems
using materials other than wood.

The wooden dolly is well known, used in all moving
15 applications and can be built of rough wood and plywood. Kern et
al. In US Pat. 5,556,118 and also in 6,206,385 show flat bed carts

with variable handles. The state of the art does not include a metal and plastic dolly system with detachable modular handles and cargo restraints. The art also does not show a system of dollies that are attachable to each other in series by means of metal connector rods.

5 BRIEF SUMMARY OF THE INVENTION

It is an object of this invention to provide a metal and plastic dolly that is inexpensive to cast and assemble.

It is a further object of this invention to provide a dolly that is capable of receiving specialized protective padding on its upper

10 surface.

It is a further object of this invention to provide a new dolly system that permits two or more dollies to be connected to each other rigidly to form a longer or wider supporting surface for moving objects.

It is a further object of this invention to provide a dolly that will accept multiple types of control handles and/or cargo restraint handles.

It is a further object of this invention to provide a dolly that
5 has e-track connectors built in to the metal frame of the dolly body to facilitate attachment of e-track-connector-ended cargo straps.

Further objects of this invention can be discerned by perusing the detailed description, drawings, specifications and claims of this application.

10 BRIEF DESCRIPTION OF THE DRAWINGS

The construction and operation of the invention can be readily appreciated from inspection of the drawings that accompany this application, combined with the detailed specification to follow.

Figure 1 is a perspective drawing of the preferred embodiment
15 of the invention.

Figure 2A is a perspective exploded view of the underside of the invention

Figure 2B is a bottom view of the underside of the invention

Figure 3 is the first of a sequence of exploded view drawings

5 Figure 4 is the second of a sequence of exploded view drawings

Figure 5 is the third of a sequence of exploded view drawings

Figure 6 is a perspective drawing of the invention with cargo restraints attached

Figure 7 is a drawing of a typical control handle

10 Figure 8 is a drawing of a typical control handle

Figure 9 is a drawing of two dollies connected together

Figure 10 is a close-up of dolly showing the e-track connector

DETAILED DESCRIPTION OF THE INVENTION

The invention is best described by referring to the preferred embodiment illustrated in the drawings. Referring to Fig. 1, the invention, a modular dolly system¹⁰¹ is composed of a dolly bed¹⁰², a plurality of rolling caster wheels¹⁰³, a plurality of e-track recesses¹⁰⁶, a plurality of e-track connector slots¹⁰⁴, a plurality of modular connectors¹⁰⁵, and one or more cover panels¹⁰⁷.

In Fig. 2A and Fig. 2B, the underside of the invention is shown. The rolling caster wheels¹⁰³ are connected removably to a plurality of caster attachment points¹¹⁰. There are four grooves in the underside of the dolly bed¹⁰². There are two longitudinal grooves¹¹² and two transverse grooves¹¹³. A metal frame¹¹⁴ is laid in the grooves such that the metal frame¹¹⁴ fills the grooves. The metal frame¹¹⁴ is a hollow tube with a rectangular cross-section. The metal frame¹¹⁴ terminates in modular connectors¹⁰⁵ capable of receiving double spring ball connectors¹³¹ (shown in Fig. 6). The

metal frame also possesses embedded e-track receptors ¹³⁵ opposite
the e-track connector slots ¹⁰⁴ in the dolly bed¹⁰². E-track-type
belts can be attached to the invention¹⁰¹ by passing the e-track
connector terminating the belt through the e-track connector slot
5 ¹⁰⁴ to insert in the e-track receptor ¹³⁵.

In Fig. 3, the upper surface of the dolly bed¹⁰² is shown with
the cover panels¹⁰⁷ removed. Revealed are the upper ends¹⁴¹ of
the caster attachment points¹¹⁰ and a plurality of substrate
attachment points¹⁴². There are two flat substrate recesses ¹⁴⁴ that
10 receive a substrate panel¹⁴⁶ (Fig. 4) attached removably to the dolly
bed¹⁰² with attachment screws¹⁴⁵. In Fig. 5, the cover panels¹⁰⁷
are fit removably over the substrate panel¹⁴⁶ by stretching the
cover panels over the edges of the substrate panel¹⁴⁶.

In Fig. 6, two typical cart bars¹⁵¹ are shown attached to the
15 invention by inserting the bottom ends of the cart bars¹⁵¹ are

inserted into the modular connectors¹⁰⁵ in the metal frame¹¹⁴ and held in place with the double spring ball connectors¹³¹.

In Fig. 7 and Fig. 8, two typical cart handles^{152,153} are shown, which attach to the invention¹⁰¹ at the modular connectors¹⁰⁵ via
5 the double spring ball connector¹³¹.

Fig. 9 shows two of the inventions¹⁰¹ connected to each other with modular connector bars¹⁶¹ which attach at the modular connectors¹⁰⁵ and are held in place with double spring ball connectors¹³¹.

10 Fig. 10 shows in close-up a typical e-track connector inserted through the e-track connector slot¹⁰⁴ into the e-track receptor¹³⁵ in the metal frame¹¹⁴.

The invention possesses a name plate recess¹⁷¹ on the upper surface of the dolly bed¹⁰². This recess¹⁷¹ will accept name plates
15 supplied by purchasers for customized versions of the invention¹⁰¹.

While the foregoing describes a preferred embodiment of the invention, variation on this design and equivalent designs may be resorted to in the scope and spirit of the claimed invention.